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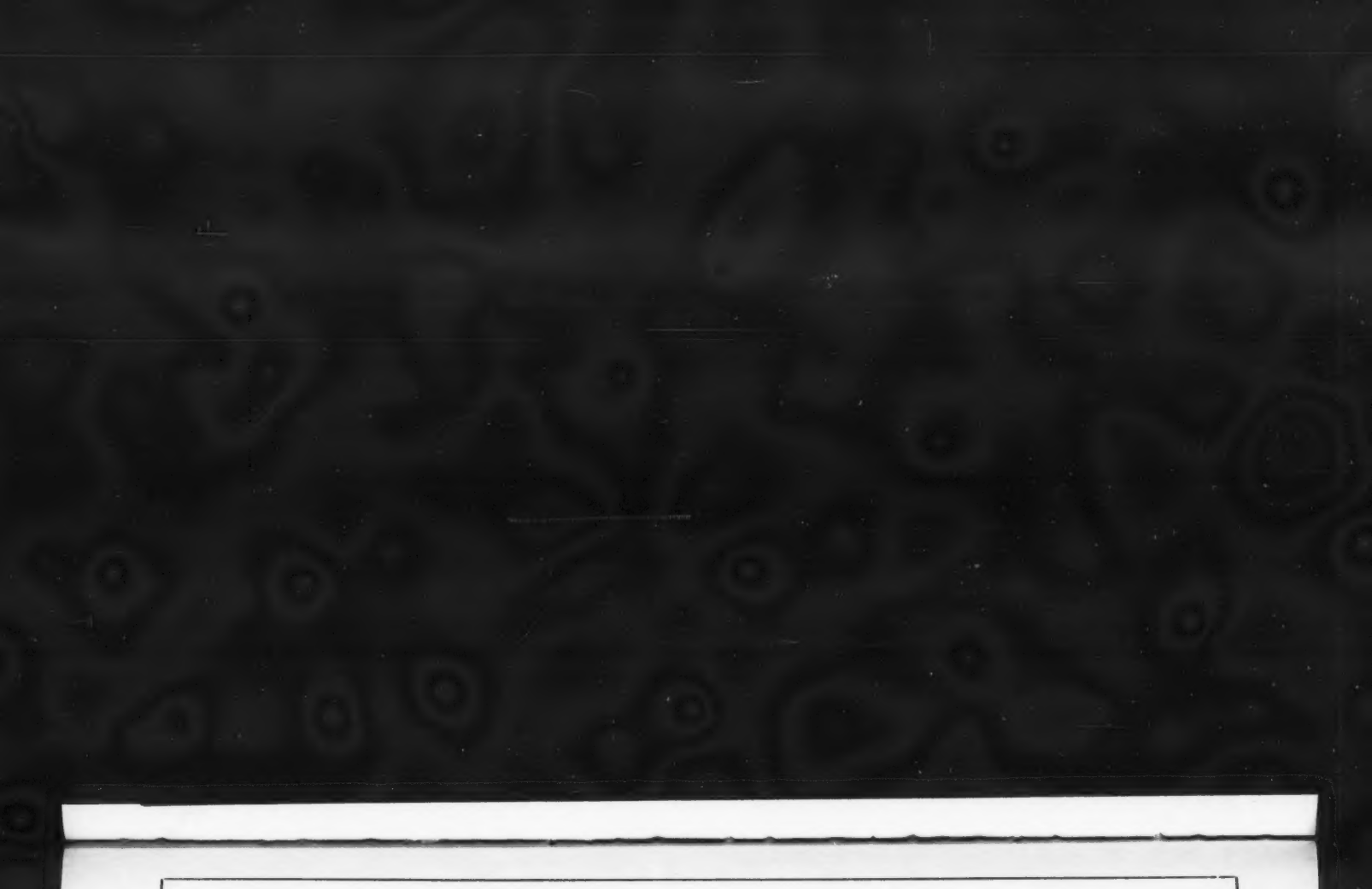

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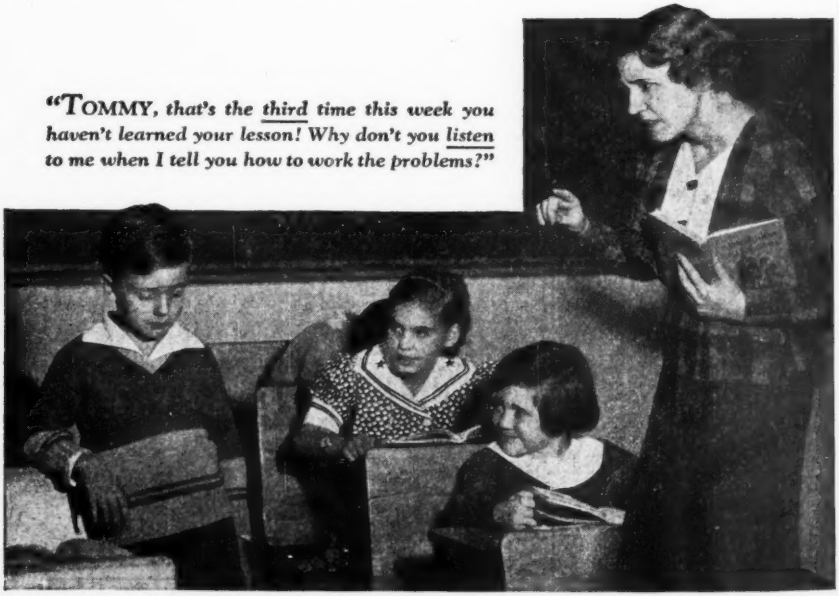

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Devoted to the interests and advancement of school health service and instruction. Your participation by membership is solicited.

Vol. XV APRIL, 1945 No. 4

FAVORABLE AND ADVERSE DEVELOPMENTS IN THE SCHOOL ENVIRONMENT*

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In a recent bulletin issued by the Committee on Administrative Practice of the American Public Health Association (Health Practice Indices), a series of charts are shown indicating the range of accomplishments in various fields of community health service. The material had its origin in the Evaluation Schedules submitted for the years 1941 and 1942. The health practices summarized in the pamphlet may be assumed to be reasonably indicative of the progress attained in the different health services of some of the more progressive communities.

It is disconcerting, therefore, to note that, of the rural school children served with satisfactory water supplies, the median group still shows a deficiency of almost 20 per cent. As the pamphlet itself indicates "There are all too many areas where rural school children are forced to use unsatisfactory water supplies with attendant potentialities as sources of water-borne illnesses."

For over one-quarter of the total number of communities surveyed satisfactory water supplies are unavailable to rural school children to the extent of from 35 to 70 per cent of the children involved.

In the case of satisfactory means of excreta disposal, the situation is somewhat better, although in the median group of rural school children approximately 10 per cent are still unprovided with satisfactory excreta disposal facilities. In one-quarter of all of the

* Presented at a Joint Session of the American School Health Association and the Food and Nutrition and the School Health Sections of the American Public Health Association at the Seventy-second Annual Meeting in New York N. Y., October 13, 1943. Reprinted by permission from Am. Journ. Public Health, May 1944, page 484.

communities analyzed, unsatisfactory means of excreta disposal are provided for anywhere from 25 to 80 per cent of the rural school children involved.

This none too flattering picture might be excused by some on the score that the situation is much better in the case of urban communities. Unfortunately such data as are at hand do not confirm this optimistic hope. In one community of over a million people, for example, approximately 10 per cent of the school children still have sub-standard sanitary facilities which would not be acceptable on any appraisal sheeet. There is reason to believe that the physical environment of schools, both in rural and urban areas, is typical of the few instances here presented.

We need not blame the war effort for any major adverse developments in the school environment, except in so far as the war has intensified or stressed the obvious deficiencies and has been responsible, of course, for deferring at least some important correctives. Bearing this fact in mind, therefore, it is important to view the school environment as one which required attention over a long series of peace years rather than one which the contingencies of war have created. A simple explanation of these deficiencies of physical facilities of various schools, both rural and urban, resides in the fact that those interested in the health of children have moved rapidly toward the personal hygiene activities which promise and accomplish so much in lifting the level of the health of the school child. Unfortunately, these efforts have too frequently been founded upon defective underpinning of an environmental type. In other words, advances in medicine and in application of the results of medical research have been so rapid that the purely physical aspects of the school received less attention than 25 years ago, except perhaps in the direction of architectural aesthetics. Corresponding emphasis on sanitary control of the school structures were lacking. These lapses are particularly unfortunate since the schoolhouse, from the lowest to the most lavish structure, should be the demonstration center for the education of children in the primary tenets of public health practice.

The best use of the school and its environs for the protection and permanent education of the child still lies in providing therein, not the more expensive, but the most adequate sanitary features which modern technology can provide. This is only loosely accomplished in a community where for many years one of the best places to demonstrate the most insanitary type of drinking fountain was in the most recently constructed school, where school superintendent, architect, health commissioner, public health nurse, and sanitary engineer apparently were never introduced to each other.

Some people have facetiously referred to many of the newest public schools as the concealed museums of unused air conditioning equipment. Here, too, the art of the salesman has outstripped the efficiency of intercommunications between school and health authorities. No inventory has ever been made of the amount of money invested in air conditioning equipment which has never performed a single revolution in fact since the date of its installation. That there are such, even a modest observer of schoolhouses could disclose.

The protection of the school environment, therefore, insofar as the sanitary engineer is concerned, has shown violent fluctuations from the provision of little or nothing to that which was too expensive and at times unnecessary.

The war has merely stressed these deficiencies and has piled them up. The war is not responsible, however, for the fact that in many expensive as well as inexpensive structures for school children natural and artificial light is poor; that in some vocational schools the conditions in the automobile repair shops are inferior to those which would be permitted in a commercial establishment for the same purpose; that in too many schools for colored children the toilets are dilapidated, lice and fleas infest the school and the waste from drinking fountains and sinks finds its way comfortably to the nearest street surfaces; that in many of the most modern urban school systems in the country neither towels nor soap are provided for the school children to wash their hands after using toilet facilities, even though health department posters, gracefully designed to instruct the children in these habits, are prominently posted in the various toilets and washrooms.

It did not take a war in 1939 to disclose that hand-washing facilities were virtually absent in the school system of a number of large cities because the cost was considered by the school board to be prohibitive.

In other major cities of the United States, as late as June, 1939, schools for colored children were provided with outside privies, with no seat covers, with the pits not fly tight, and sufficiently odoriferous to be reminiscent of the textbooks of 1900.

It was not war which caused illness, in a large number of students, from fumes and gases in one of our most distinguished school laboratories because of the lack of adequate artificial ventilation, generally demanded under state regulations for industries. Nor was it war that made the classic location of illegal cross-connections in one of the most important high schools of a large city.

These examples are culled from the reports of various school surveys which have or have not found their way into the literature.

They are impressive in demonstrating the conviction that long before World War II we had the elements of a major public health war in the field of school environment, in which the antagonists were within the departments of education and of health. This does not mean that equally excellent examples cannot be given of accomplishments and of cooperative effort between the departments of education and of health. There are many such, but the examples of the absence of such positive cooperative effort are still too many to be comforting to either the educator or to the health officer. Since these situations have become intensified because of war, and because they will confront all of us in increasing degree as soon as peace is declared, the remainder of this paper will be devoted to outlining some of the elementary features of school environment, the control of which the members of the American Public Health Association may profitably take to heart. Most of these details are probably familiar to all of you. Perhaps they are so familiar that it is reasonable to ignore them even in the installations. In rehearsing them for you, some renewed interest may be generated in applying those sanitary standards and practices to the future which have been in the textbooks for many years in the past.

Much of our lifetime is spent in the home, the school, and the work place. Witness the family as they break up after breakfast for the day's work. The father leaves for the office or factory environment, the child for school, and the mother remains in the home. Many of the same fundamental considerations of sanitation apply to each of these environments. In Preventive Medicine In Modern Practice (edited by the New York Academy of Medicine) it is suggested that it would be well for experts in the hygiene of housing to participate always in the planning of new schools. It is easy to see how the problems of illumination, ventilation, heating, water supply, sewage disposal, fire hazards, and general housekeeping require the same fundamental engineeering considerations, whether applied to the environment of 15,000,000 school children of the country or to the environment of the 50, or 60,000.000 workers.

Of course, for a comparatively small percentage of workers exposed to special hazards specific to some manufacturing, mining, and mechanical industrial plants, there are special industrial hygiene problems in the control of dusts, fumes, mists, and gases, and in protection against accidents.

The school environment is planned by architects and engineers and is operated and maintained by the school custodian under the general supervision of principals. To the extent that the architect,

custodian and principal understand and appreciate the requirements of a healthful environment and to that extent only, will the new schools and the major alterations to existing schools be designed and constructed to promote good and prevent ill health. Improvements and maintenance of existing schools are likewise planned by superintendents, business managers, and other officials of the boards of education. It is important that the school environment be planned to complement the hygiene program of the school and the health department. The problem is both medical and engineering and, where their services are available and interested, the health department can play a very useful and effective part in furnishing understanding and appreciation by translating health objectives into designs and specifications.

The problem of influencing the school board and superintendent is not unlike that of influencing other departments of government in order to accomplish needed improvements. The taxable wealth of the community, the political situation, the progressiveness of the community, and the personalities involved are basic considerations influencing the decision how best to handle the problem.

When Memphis, for example, began to give some thought to a program of school sanitation a few years ago it was found on inquiry that a rather complete course in hygiene had been prepared jointly by a committee of teachers and nurses. Sanitation was not referred to in any way, and the activities of the Bureau of Sanitation were not mentioned. The sanitary engineer had not indicated by any planned activity in the schools any interest in the school environment as a whole beyond that of restaurant inspection and of checking connections to public water and sewerage systems. A first move was to survey all of the schools of the city. A form was developed for reviewing each schoolroom and for scoring each school building from the standpoint of design, construction, and equipment, as Part I, and maintenance, operation, and educational effort, as Part II. Because of the variation in the illumination found in individual rooms and the many factors involved in providing satisfactory illumination, it was necessary to record these items for each room on a separate sheet.

As the survey progressed the superintendent of schools was acquainted with the results, and he became much interested in the information which was being developed. A summary of scores for the first 23 schools surveyed was prepared and submitted. This was the health department's estimate of how the various schools compared with each other and where improvements were needed. This estimate could be compared with their own evaluation. A pro-

gram of improvements was made up each year, and money was set aside for them in the budget. The superintendent asked that the business manager of the board be kept informed of the progress made and that all reports and plans be filed in his office. The business manager expressed considerable interest, and asked that specifications for drinking fountains to meet the health department's approval be drawn to guide him in the purchase of about 1,000 nozzles for replacements for the next year. Soon a request came from the architect that tentative plans for a new school be looked over for criticism and recommendations before final plans were drawn. This was done, and recommendations were incorporated in the final plans.

This brief statement of experience in one city is included only to indicate how quickly confidence and cooperative effort may be established. Sound engineering advice is appreciated and will command respect. It is frequently suggested in connection with schools, housing, water supply problems, etc., that "the health officer should advise the appropriate officials on matters concerning public health." Unless backed by study and a knowledge of the principles involved, such advice is not specific enough and frequently is overlooked until too late to mean much. Plans submitted after construction has gotten under way or even after the plans are complete cannot be readily changed. This is just as true for schools as for water supply improvements.

It would serve no useful purpose to list herein the detailed technical features to be covered in school building design and equipment, for these are readily available in current standard texts. It is important, however, to emphasize and reemphasize that a sound cooperative program between the health and education departments must be based on the respect and confidence of the board of education and on the obvious qualifications and tactfulness of the health officials for dealing with the environmental problems. The minimum necessary steps to provide satisfactory physical structure and equipment are as follows:

1. Survey of the school plants (master survey).
2. Yearly inspections plus cooperative assistance from the nurse.
3. Definite reports and recommendations to be made at the right time in order to receive consideration when the budget is being planned.
4. Approval of plans by the public health engineer, in consultation with the school architect.
5. Preparation of specifications for sanitary equipment, such

as fountains, syphon breakers, dish washing equipment, new lighting systems, etc.

6. Active interest in the educational material used in teaching public health in the school.

When peace comes, the school will be revivified. New and delayed structures will be built. Now, however, is the time for the health department to make its joint plans with the school department for the introduction of sound, economical and safe standards and practices into the school environment. This is one field where simple familiar structures and equipment should not be forgotten because they fail to stir the imagination of the crusader. They do protect lives and safeguard well-being.

* * * * *

Ringworm Epidemic,—Kanawha County, West Virginia, according to the state health department, has what amounts to a mild epidemic of ringworm, with 175 cases reported from two areas as of December 15, 1945. There are no cases among adults and none among girls. The infection has been found in boys and is limited to the crown of the head or the areas between the hair line and the crown. Barber shops have been given a clean bill of health by the state health department, which reports that 90 per cent of the cases have been found in boys between the ages of seven and twelve. An educational program is now under way in Kanawha County schools with the purpose in mind of impressing on children the importance of refraining from resting their heads on the backs of seats in public places. — *The Journal of the American Medical Association,* January 6, 1945, p. 47.

* * * * *

Health of Children,—A new department of child health has been opened at the University of Liverpool. The title is significant, showing the new emphasis on prevention rather than on treatment. At present two classes of physicians deal with children—those who treat them in the hospital and those in the school medical service and child welfare service. These two classes work separately, which is inefficient; some fusion or cooperation is desirable. The new department at Liverpool should initiate this, for it is the result of collaboration between the university, the city council and the voluntary hospitals. For the first time the University of Liverpool has a professor in child welfare, Dr. N. B. Capon. The new department will have its headquarters at a large municipal hospital for children with 950 beds. Three wards will be set aside as a main teaching and research unit. All the wards of the Royal Liverpool Children's Hospital and the Liverpool Maternity Hospital will take part in the program. — *The Journal of the American Medical Association,* January 6, 1945, p. 48.

NEW TRENDS OF VARIOUS PUBLIC HEALTH AND NUTRITIONAL ACTIVITIES IN A SCHOOL PROGRAM*

J. T. PHAIR, M.B., D.P.H.,
Chief Medical Officer of Health for Ontario.

Frankly, I find myself in a position approaching embarrassment. When I accepted the responsibility for the preparation and presentation of this paper, I believed that I was able more or less adequately to interpret the implications of the title, at least from the point of view of Canadian experience. I am compelled, however, to admit that the more seriously I assumed my obligation, the more difficult it became. In attempting to establish trends, I found nothing that would meet my ultimate conception of what your Program Committee had in mind, but I did find a measure of serious thinking intermingled with conscious and subconscious confusion among a number of those who were directionally responsible for the school health program. Some of you will naturally wonder why, under such circumstances, I did not withdraw from the program. I share that attitude of mind with you. My only justification (and it may not be adequate) for my presumption is that I am of the opinion that my experience in this rather futile attempt to uncover defined inclinations towards change may be of some interest to those who are concerned with the place of school health supervision in the present more expansive approach to public health generally. I shall attempt to be as lucid as possible in the interpretation of what I was able to discover and to be brief without any qualification.

I found among some a rigid adherence to the precepts and practices of a generation ago and a dogmatic faith in their effectiveness. I found a feeling of scepticism among others as to the validity of the claims made on behalf of the service by those who were promoting its expansion. I noted a feeling of frustration among those responsible for the allocation of time and effort of the staff employed at the demands made in respect to the former and confusion as to the direction of the latter and I sensed in many quarters an attitude of disquietude that was as yet not crystallized into constructive thinking.

Concerned with the results of my poking about, I gathered together from various parts of the Province a small group of those whose opinions should be of value. All had at some time or other

* Read before the Joint Session of the Food and Nutrition Section of the American Public Health Association and of the American School Health Association, New York, October 4, 1944.

been intimately associated with school health supervision in one or other of its aspects. All were still prominently placed in the field of public health. The discussion was largely undirected, all I did was to ensure that all phases of the subject were referred to, the participants were to feel free to discuss anything relevant to the purpose of the conference. They could be constructive or iconclastic, but not long-winded. There was to be no attempt to weave together all of the strands into a new pattern. That would presumably come later. While unanimity was not always present, the highlights of their thinking were briefly as follows:

One, that the original generally-accepted objectives of the service were outdated and outmoded. Broken down, this was that the control of communicable disease was a matter beyond the confines of the school and that time spent in such activities as post-vacational inspection and readmissions was unwarranted in terms of results achieved; that immunization should be limited to the administration of reinforcing doses of the immunizing agent used in such preventive procedures as vaccination against smallpox, whooping cough and diphtheria; that tuberculin-testing of elementary school age children was an extravagant method of case-finding and that it had fairly well defined limitations among those in attendance at secondary schools.

Two, that too much time was spent in the examination of well children and not enough concern shown on behalf of those who exhibited present or potential handicaps; that the best possible medical examination could not be described as complete; that we should direct more of the interest now exhibited on behalf of this age group towards the needs of those who are under five; that the health needs of the secondary school pupils were being inadequately met; that the greatest single factor in the non-correction of defects found was a lack of readily accessible treatment facilities that were within the financial limitations of the interested parent.

Three, that the gap between those directing the pedagogical program and the school health staff had been narrowed but is as yet unbridged; that health teaching as such was based primarily on the principle that information appropriately presented will favorably influence human behavior. (I must admit ignorance as to the correctness of this inference.)

Four, that the sphere of influence of the school health staff in the matter of school hygiene was manifestly limited and that the sanitary officer of the local health department and the school maintenance staff shared jointly the responsibility for the supervision of all matters related to environmental sanitation.

Five, that there was some evidence to support the idea that constructive thinking was being exhibited in the matter of a well-oriented physical activity program.

In the field of nutrition—as it affected the school health program—I was able to learn but little. There was a strong feeling, however, that the present method of nutritional assessment inhibits an effective approach to the situation said to exist, namely, the need for improvement of the nutritional status of this age group. I heard rumblings of a movement to extend the principle of communal feeding appropriately designed to meet the health needs of school age children who are said to be either underfed or undernourished. Our experience with the group-feeding of children who have been participants (often unwilling) in the wartime-school-care program leads me to believe that an attempt to introduce this type of project is fraught with difficulty, not insurmountable but nevertheless real, and appropriate consideration should be given both to the desirability and to the practicability of this form of socio-economic adventure before it is initiated on a national scale.

Projecting my interest a bit beyond the scope of the referred-to conference and into those aspects of the service which are sometimes considered as ancilliary, I was confronted with the attitude strongly held in some quarters that any effective approach to the problem of mouth health was basically one of adequate treatment, made available through the practicing dentist, and not through community-sponsored clinics; the direction of the service to be, however, in the hands of specially trained dentists who would be employed full-time. This attitude was undoubtedly influenced by the fact that we in Canada have been compelled to review present and planned health services in relation to compulsory health insurance, so-called. This formal revision of views previously held as to what constituted treatment and what constituted prevention resulted in two rather sharply divided schools of thought, namely, those who support a complete divorcement of curative and preventive medicine and those who cling to the hope that the union of these two can be made indissoluble.

It was noticed that consideration is being given here and there to meeting the problems of social adjustment with its associated psychological and psychiatric implications. The extent of the emotional inadequacies of young adults, as demonstrated by figures made available by the Medical Services of the Armed Forces in both Canada and the United States, is undoubtedly responsible for this trend. Some practical plan of mental hygiene at the school age level will probably result.

In conclusion might I say that I again admit my deviation from a literal interpretation of the title. I have offered you no trends. My only hope is that I have not gotten too far away from what I have inferred to be implications. On the other hand, you will recall that I promised you nothing but attempted lucidity and unqualified brevity. I am not too sure that I have kept the first promise but I have the second.

* * * * *

Nutritional Improvement of Child Mentality,—Dr. Kugelmass and associates are to be congratulated in bringing to the front an outstanding research project which should make all parents, physicians, nurses and educators more aware of the importance of nutrition, especially in the first few years of life, on mental development.

The effect of nutritional improvement in child development was studied in 182 children, two to nine years of age, half institutionalized and half out-patients, for a period of fourteen years. The group of children malnourished at the time of the first I. Q. rating and well nourished at the time of the second test showed a rise of 10 points for the retarded and a rise of 18 points for the mentally normal in contrast with an average change of zero for the group well nourished at the time of the first test and still well-nourished at the time of the second test.

It is highly significant that the younger the malnourished child is when nutritional therapy is instituted, the greater the chance of improvement in mental function, since the I. Q. rise is insignificant after four years of age. — *I. Newton Kugelmass, M.D., Ph.D., Sc.D., Louise E. Pouli, Ph.D., and Emma L. Samuel, M.A., New York State Journal of Medicine,* December 1, 1944, pp. 2604-2605. Abstracted by Frederick L. Patry, M.D.

* * * * *

Outbreak of Brucellosis,—An increasing epidemic of brucellosis has been reported in several regions of Oregon and notably Portland, according to *Northwest Medicine.* The majority of cases which can be accurately checked have been traced to the use of raw milk, while other cases have been traced to the taking of cottage and other cheeses processed from unpasteurized milk as well as to milk shakes and other milk products. It is intimated that the state's health laws as regards milk production and distribution are "antiquated, defective, inadequate and poorly observed or enforced." The inspection of restaurants, including milk handling facilities, outside of a few cities having special milk ordinances, is a function of the Department of Agriculture and not the State Board of Health, and pasteurization of milk is not required by law. — *Journal of the American Medical Association,* February 10, 1945, p. 347.

IS A GAMES PROGRAM SUFFICIENT TO OBTAIN PHYSICAL FITNESS*

EMILY R. ANDREWS,
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For many years I have been on the assembly line—the assembly line of student material which passes along from high school into college. In college this material is tested and evaluated as to its present condition, its capabilities, and its potentialities. In other words how efficient it is to do the job expected of it? Very briefly I shall give you some of my findings of the physical aspects and condition of this student material as it comes off the Cleveland High School assembly line.

The material is weak; it lacks strength. Where? In the muscles of the arms, abdomen, back, and feet.

The material is stiff; it lacks flexibility. Where? In the shoulders, hip joints, legs, ankles, and feet.

The material lacks coordination, has little agility. Where? In all movements calling for quick action or response.

The material has little endurance and collapses upon moderate expenditure of effort.

The fact that the majority of our students come from an urban area may account for this. Too many have poor carriage, flat chests, little stamina; and practically all have foot difficulties. They may be the product of too much riding around in automobiles. It is true, nevertheless, that many are well trained in certain sports, but skill, in many cases, is hung upon a poor body.

Physical education is not only the learning of skills, playing basketball better in order to make teams, or swinging tennis rackets enough times to connect finally with balls, but the establishment of a scientific and educational foundation that will give students bodies that can be used easily, joyfully, cleverly, in any activity they may choose. On the other hand, physical education is not a set of exercises, a system, a fad, or a frill, but it should be a vital force in the lives of our students.

From their high school physical education, students should acquire knowledge that will go with them into life after school, into college, their own home, business or profession.

I. *What are some of the outstanding reasons why many students have been so little touched or changed by physical education?* In answering this question I shall note some reasons I believe are

* Republished by permission from Journ. of Health and Physical Education, May, 1944. page 262.

responsible for this situation. Physical education teachers and school administrators come in for their share of censure.

a. Physical education, as a profession, is young. We haven't "grown up" to some of the responsibilities that should be ours.*

b. Teachers of physical education have not always been in agreement on some of the basic principles. This has been puzzling to those outside the profession.

c. Too many principals and superintendents do not know what is going on in their gymnasiums. They go to see basketball games from time to time and help cheer on the side lines, or come to the gymnasium when invited to see a demonstration, but how many can judge whether a program is adequate to develop endurance, strength, and agility?

d. Physical education needs more efficient and scientific ways of checking results. Sadly enough, work is often judged by whether or not the students like physical education. If the report comes to the principal that students like the teacher of physical education, that is sometimes enough to retain him; or, if he is fortunate enough to put on a winning team, his place is assured.

e. We have been afraid in recent years of "trainings." Too much play and too little work could be a just criticism of many programs. We have asked pupils what they wanted to do rather than given them what we knew they needed.

f. Classes have been large and ungraded. All types, kinds, and conditions have been herded together in a class of 60-70 and the teacher asked to produce results quickly—and this in only one or two hours a week. This would be superhuman even for the best-trained teacher.

g. Work has not been vigorous enough to produce results. I have seen pupils standing and sitting around waiting for their turns. If an actual count were taken many pupils would have only 10 or 15 minutes of activity during a lesson.

h. Many teachers have stood on the side lines as referees while students taught, and in some instances their heaviest job has been blowing a whistle.

i. Teachers of physical education and administrators have not stressed the importance of functional carriage of the body. Much of the work in physical education has not been made practical enough. It doesn't function in a student's life outside the gymnasium.

j. We need more carefully selected teachers, well trained and capable, chosen because of fine character and personality—walking advertisements of their profession. I have known instances

*Even in this country, it is now 125 years old.—Ed.

where a teacher was engaged because he was a good basketball player, or because he was strong in one or two skills. If outstanding results are to be obtained, teachers must be chosen on the basis of thorough preparation and ability.

II. *What should be included in a program to produce results?* The Victory Corps Program, if interpreted intelligently and used carefully, should produce outstanding results. It is a step in the right direction. Following are some of the points I should like to emphasize:

a. A program of physical education should be meaningful. Students should be made intelligent about their own condition, their health and development. Physical education should function in the lives of pupils so that they recognize the value of it in relation to efficient living. If we could inspire our students in some way to pass on to others what they learn, half our problem would be solved. I have spent several summers in one of the Folk Schools in Denmark which operates on this principle. After a term at the school the boys and girls go back to their own communities as volunteer leaders, and pass on to others what they have learned.

b. A program of physical education should include all types of activities—a balanced program. They should include activity that gives adequate training in bodily development as well as training in sports.

Some have felt that a games program was sufficient to obtain physical fitness. But now that a war is on and we must produce the physically fit overnight, many realize the importance and place of conditioning exercises to supplement a games program and a physical fitness program.

This type of work has been neglected the past few years. It can be used effectively to develop the weak parts of the body as well as to increase flexibility. Exercises should always be included in a program as a valuable aid and time-saver in gaining strength, agility, and maintaining good carriage. It need not be a bitter pill but "fun to do" and it has been my experience that pupils thoroughly enjoy it.

Let us not make the mistake of swinging too far in this direction so that after the war and the stimulus of physical fitness passes we will do as McCloy says we did in the last war, "dump most of the body-building emphasis into the education garbage can and set it out on the curb."[1] There must be a balance of activities, and all types are necessary. Let us not be fadists.

c. The program should include emphasis upon better body me-

chanics. By this I mean the fundamental activities of standing, walking, sitting, lifting, pushing, pulling. We should teach ways of relaxing in recreation as well as in exercise; teach students to know the signs of fatigue and what to do about it. These days, when nervous tension, worry, and fatigue are producing strains and drains, it is important that we safe-guard our young people with tips or little tricks on how to release tension. Physical education can function as a stabilizer of the mental and emotional life of the individual.

d. Physical education should give students the proper attitude toward recreation. It should help to provide skills for physical recreation. All teachers in a school can play a part. An English teacher may be excellent in tennis; a math teacher, in swimming; a French teacher, in riding; a geography teacher, in hiking; or a social science teacher may enjoy outing activities. Why not let them help motivate interest in the outdoors? Too many adults are too busy and neglect their own active recreational life. This would be a way to maintain it and give leadership through participation.*

e. Health problems in physical education cannot be solved alone by the teacher of physical education. The doctor, the administrator, and all teachers should be concerned with them.

III. *How can the school administrator cooperate more fully with us as we plan for the future?* We need:

a. More time in the program for physical education.

b. Smaller classes.

c. Well trained teachers with vision.

d. Normal teaching load.

e. Better facilities

f. More integration in the program as well as more cooperation between all departments, i.e., art, music, etc.

g. Medical examinations for every student.

h. Intelligent understanding and supervision of the program.

i. To offer boys and girls vigorous, all-round activity and provide time for it.

j. Teachers of physical education of deans' committees, health and guidance councils.

k. Greater cooperation.

In conclusion, I quote from McCloy:

"The pupil with whom we deal is never just a body nor is he

*Why not copy the situation that exists in our best private preparatory schools, and make such service compulsory, and a condition of the employment of such teachers?—Ed.

just a mind, but he has an organic unit of body and mind, of emotions, of spiritual appreciations, of plain vegetative visceral functions. He grows and develops and whether we exercise him, or educate him, or train him for pleasure, we are always dealing with all of this biological unified organism."[2]

1 C. H. McCloy, "Philosophical Bases for Physical Education" (New York; F. S. Crofts & Co., 1940) p. 76.

2 Ibid., p. 60.

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Dental Fitness.—The Dental Society of the State of New York through its Council on Dental Health, working in cooperation with the State Department of Education and the State Department of Health, has developed an action program to assist school officials to complete the dental corrective phases of their physical fitness program. In order to accomplish this, dentists are being asked to give priority in available appointments and special consideration to high school students, particularly those who are about to enter the military or civilian war services. Through cooperation with the State Department of Education, high school students are to be permitted to keep appointments during school hours, when necessary.

The objectives of the New York State program are:

1. To graduate from high schools, boys and girls dentally fit, so that they will not, because of dental deficiencies, be kept from military and civilian activities in which their services are needed.
2. To correct existing dental defects and to prevent future defects by enlisting the services of the family dentist, and thus help to reduce the heavy burden now being carried by the overloaded military dental corps.
3. To enable high school students entering military or civilian war services to begin training without loss of valuable time necessary for dental rehabilitation.
4. To meet not only the immediate dental needs of prospective inductees and high school students entering civilian war work, but also to extend further dentistry's long range educational program for the control of dental disease.
5. To maintain dental interest in the population during the years immediately following the war all practicing dentists should extend their services now to include regular dental care for children. In the final analysis the child patient is the backbone of all dental practice.—Abstracted from the New York Journal of Dentistry, February, 1945, p. 53.

THE RANGE OF THE NORMAL HEART IN ATHLETES*

J. W. WILCIE, M.D.

Dr. Wilcie says, "Diseases and defects of the cardiovascular system seem to be the principal causes in total disqualifications for any military service." He also calls attention to the importance of analyzing the factors contributing to total rejection for active service and possible procedures for their correction. He says, "Nationally speaking, many athletes who should furnish some of our best general military, officer and aviation pilot material are being legitimately rejected from service for cardiac, as well as for many other medical and surgical, conditions. Broad participation in competitive athletics and strenuous recreative sport and physical education for practically all ages and both sexes is a definite and characteristic part of the life of our American democracy, but there is still a great deal to be learned concerning the cardiac effects of athletics."

Dr. Wilcie has made a study to obtain evidences concerning the following postulates:

"1. 'Athletic heart,' in the sense of a permanently enlarged, clinically inferior heart, does not exist in the absence of etiologic factors which are scientifically accepted as the cause of actual or potential cardiac disease.

2. Under present conditions of American athletics, many inferior or potentially inferior hearts of competing athletes may have their inferiority factor increased by athletic competition or by any degree of exercise which is too heavy for a particular person.

3. Certain so-called normal hearts may show relatively minor, transitory, physiologic size changes which have little, if any, practical clinical significance."

"Electrocardiograms, functional tests, and the essentials of physical examination were obtained in a large percentage, but not in all, of the cases."

Dr. Wilcie says that athlete's hearts are not all enlarged; some are enlarged, some are normal and some are small. Absolute enlargements do exist and would be called athletic hearts by some, but size increases may be explained by inheritance, disease or deficiency factors before, during, or after active sport. "Strictly speaking, a normal, healthy heart is one which shows no evidence of organic disease, congenital or acquired, no abnormal variation in size or shape under accepted standards, no evidence of deficiency or degenerative conditions, no abnormal variation in functional ef-

* Abstracted by John E. Burke, M.D.

ficiency, and no history of any condition which is known to predispose to heart disease or to favor it.

"The most amazing thing to me in my entire study was that, by these present-day standards, only twenty-nine hearts in my entire group of 233 cases were 'normal.' If we omit from our definition 'no abnormal variation in size or shape' under accepted standards 'thirty-seven were normal'."

"Many athletes compete in American sports today who should not be allowed to do so, medically speaking, for the following reasons:

1. No pre-sport examination. This condition does not exist in the better colleges, but 28 per cent of 9,000 college freshmen testified to this situation in their high school and earlier experience.

2. Inadequate pre-sport history or examination, and omission, in many instances, of any medical opinion before return to sport after illness.

3. Lack of accepted medical standards for participation in various types of sports.

4. Personal neglect of the doctor's order because there is a tremendous psychologic, physical, and social satisfaction in sports.

5. Desire of parents who want the thrill and secondary advantage of their sons' athletic prowess.

6. Public opinion and pressure on athlete and doctor to allow good athletes to compete.

7. Occasional political, instead of educational sports and recreational administration.

8. Great public recreational systems in which players are allowed to compete intensively without medical examination of any kind.

9. The prevalence of informal "sandlot" type competition, with no formal medical "participation control."

10. The national tendency to promote team competition for "grade schoolers" without adequate medical guidance.

11. Sports articles in popular magazines which occasionally promote the public acceptance of "half truths" concerning the medical effects of sport.

"Many athletes are denied participation in American sports who should be allowed to compete for the following reasons:

1. The medical viewpoint of what constitutes the proper medical standards for participation in various sports varies a great deal.

2. Many boys are excused from sport because of a "murmur," although certain leading cardiologists and other physicians allow

persons with small degrees of chronic valvular involvement certain degrees of participation.

3. Cases need individualization in the light of relative evaluation of social, economic, and psychologic values, as balanced against possible medical injury through participation.

"The volume, Nomenclature and Criteria for the Diagnosis of Diseases of the Heart, carries this pertinent example under Therapeutic Classification: "The functional capacity of the patient does not always determine the amount of activity which is permitted. For example, a child with active rheumatic cardities may not experience discomfort in playing baseball yet the physician knows that rest is imperative." Many athletes compete under this principle with less extreme medical conditions. These athletes are normal from the lay standpoint, regardless of the possible eventual bad effects of competition."

"The third phase of our thesis is that certain so-called normal hearts may show relatively minor, transitory, physiologic changes in size which have little or no practical significance."

"This study does reveal definitely the fact that there are many injured hearts among athletes before, during, and after competition. This fact may explain military rejections of athletes who are popularly considered normal. It is natural for a layman to hold the opinion that athletes are rejected from military service because of "athletic heart," but this is not the case. They are rejected because of organic heart disease of varying degree."

"1. An analysis has been made of cardiac size by comparing orthodiagraphic areas and cardiac diameters with the Hodges-Eyster normal standards in a series of 233 persons selected from 3000 American male athletes. Conclusions from this study follow:

2. Generally, athletes' hearts are larger than non-athletes' hearts.

3. "Non-organic cardiac enlargement" is probably of little clinical importance, and should be considered normal for athletes. Moderate variations from the average heart size in normal athletes, in the absence of other signs of organic heart disease, is of no particular significance. The eventual result of "non-organic enlargement," however, is not as yet definitely known.

4. According to published standards of heart size, the hearts of many athletes are enlarged.

5. The hearts of persons of "softer type" may change size under athletic strain.

6. It is probably detrimental to the health of persons with organic heart disease to participate in sports.

7. The intangible advantages of true athletic training probably outweigh the disadvantages of moderate, "non-organic" cardiac enlargement (granting that it does exist); this is important in deciding whether or not athletes are acceptable for aviation or other military service. Such hearts should be considered normal.

8. Participation in sport should be encouraged in every way, but only under alert, accurate, and liberal medical supervision.

From American Heart Journal, May, 1943.

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Special Schools for Children With Heart Disease,—The Jesse Spalding School is one of four elementary schools in Chicago designed to furnish normal school and environmental education for physically handicapped children. Children with cardiac disorders have been admitted to these schools as a group, through the influence of the Chicago Heart Association, since 1924. Recently Kohn and McEldowney surveyed a group of children who attended the Spalding school. The survey covered approximately a ten-year period. Of the 130 examined and interviewed, 104 had either improved or remained in the same cardiac classification since leaving the school. The youngest was 17 years of age and the oldest 33 at the time of the recheck physical examination. There were 65 males and 65 females. Thirty-two of the women were married; 14 had borne one child, three had two children, one had three children, two had four pregnancies and two were pregnant at the time rechecked. None of them reported that the heart condition had adversely influenced the pregnancy or labor to any great extent. Almost all in the group were working, and their jobs covered a wide range of occupations, including a commercial artist, an office worker, a butcher, a plumber's helper, a coal man, a truck driver, a waitress and a soldier. The investigators concluded that a special school for cardiac children can carry on where the convalescent home leaves off, and enables the long continuance of the kind of medical supervision which a child with rheumatic heart disease requires. Such a school also makes for a more normal life for cardiac children of school age with limited capacity for activity and, through the contacts made with parents as well as children, facilitates their education in the practical aspects of the type of living suitable for them as children and adults. This experience confirms the advantages of the special school for children with heart disease and suggests the extension of this type of endeavor to other communities where it may be practicable. — Reprinted from *The Journal of the American Medical Association*, January 27, 1945.

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EDITORIAL

This is about books; text books; text books to make more likely some real progress in the efforts made in schools—particularly elementary and secondary schools—to make function the program in health education; the teaching of health and health processes, if you wish to be more clear.

The use of text books in these courses is essential if real progress is to be made or even if any real effort is to be put forth to try to make progress.

The average teacher, especially the older one, probably knows less about health and how it may be maintained than she does of any other subject she is expected to teach. Only the most expert teachers and the best informed ones as to subject matter can get anywhere without the use of a text that will give them content, references, discussion topics, and those other facters which are in our present day health instruction books.

The use of a good text at least assures that the pupils will get *some* definite and accurate information of a usable sort. It assures that some orderly progression will be secured and that little misinformation or fostering of superstitions or cults will go on.

Any school subject that is held in so little esteem by the administrators and the Board of Education that they do not bring about the purchase of text books in that field is also belittled in the mind of the teacher with the result that the teaching will be "sloppy" and almost necessarily inaccurate and unscientific, and so belittled in the minds of the pupils that they in turn display slight interest and less effort.

Whether the text used should be one of a "series" or an individual one is debatable. To choose a series sometimes is convenient

for the administrator, but often such "series" have weak spots since no one author can write or construct equally well for all grades. When separate authors are used for different age-grade levels, it takes extremely skilled editing to make the resulting series any better than any other collection of texts, even though these latter may be issued by separate publishers.

With the definite intention that is being manifest by our people and Congress that in the future our youth shall be better prepared for *all* their duties as citizens, school authorities can not afford to leave unturned any stone the turning of which will tend to make a more "fit" citizenry. Unless the "schools," meaning administrators and "Educators," manifest such interest and hearty effort, the handwriting on the wall is clear and easy to be interpreted; the federal government will take over. This means, among other things, definite compulsory military training under army and navy control.

The issue is clear.—C. H. K.

ABSTRACTS AND NOTES

Football Fatalities,—There were 17 deaths attributed directly to football during 1944, one of them the first college football fatality since 1940, newspapers reported January 13. The total number was six more than in 1943, but was 14 under the peak of 31 in 1931, when the first surveys of the group of deaths was made by Frank S. Lloyd, Ph. D., then at New York University, and Fielding H. Yost of the University of Michigan, Ann Arbor. Five deaths were among the players on sand lot teams, two on athletic club teams and nine in high schools. The most frequent cause of death was cerebral hemorrhage. In a report to the National Collegiate Athletic Association, Floyd R. Eastwood, Ph.D., professor of physical education for men, Purdue University, Lafayette Ind., stated that "the head still has not been adequately protected against injury in the light of the continually increasing number of these injuries." The report listed halfbacks as occupying the most hazardous position. Fatalities at this spot made up 18.8 per cent of the total. Others were ends 11.7 per cent, tackles 7.4 per cent, fullbacks 6.6 per cent, quarterbacks 5.5 per cent and guards 5.1 per cent. Injuries suffered making tackles accounted for 30.8 per cent of the fatalities. The next most frequent cause was blocking with 10.2 per cent. Dr. Eastwood said the survey showed that most of the fatal injuries still occur in the second and fourth periods of games, which appears still a further reason for more frequent substitutions. — **Journal of the American Medical Association, February 10, 1945, page 348.**

Developmental Diagnosis,—Dr. Gesell and his associates for many years have made outstanding contributions not only to the theory and practice of pediatrics but also to child psychology and mental hygiene of modern child-care. His clinic of child development at Yale University has been a pioneer in bringing to light through sound research criteria his developmental diagnosis of the maturity of the growing child from birth through the pre-school period.

Developmental diagnosis is the clinical developmental neurology which elicits patterns of behavior characteristic of the group for each stage of development. The responses of a large number of children at all ages to developmental test materials and situations have provided data for establishing norms of behavior patterns. Deviation from these norms or abnormal neuromotor patterns are significantly helpful when adequately interpreted in the diagnosis not only of retarded or accelerate development, but also in the recognition of such conditions as spastic paraplegia, cerebral injury, athetosis, cerebellar aplasia and other disorders affecting the child's neuromotor system.

Dr. Gesell cautions that the I. Q. has been seriously misused in the classification of children of school age. Likewise the dangers of a numerical tag in the first few years of life are recognized. The objective of developmental diagnosis is the appraisal and interpretation of developmental assets and liabilities. Such interpretations cannot be summed up on a numerical I. Q. basis. Developmental evaluation is a complex process which requires detailed analysis in the light of the attendant and historical medical factors. Normality also presents its own distinctive clinical problems.

The author gives a timely warning to the medical profession to become more concerned with development as well as disease in the practice of medicine. The diagnostic procedures and clinical applications are described in detail in: *Gesell, Arnold and Amatruda, Catherine S.: Development diagnosis: Normal and Abnormal Child Development, New York, Paul B. Hoeber, Inc.*, 1941, *page* 447. School physicians, nurses, psychologists and psychiatrists would do well to become better acquainted with the important contributions of the author. This is especially so since professional education is becoming increasingly concerned with the pre-school child. His adequate evaluation will go far in capitalizing his assets when he begins school, whether it be nursery school, kindergarten or first grade. — *The Role of Developmental Diagnosis in Clinical Medicine by Arnold Gesell, M.D. New York State Journal of Medicine*, December 1, 1944, pp. 2599-2603. Abstracted by Frederick L. Patry, M.D.

Ringworm Epidemic,—Ringworm of the scalp, which apparently started recently in the eastern part of the United States and spread westward, is now affecting hundreds of Illinois school children in what is reported to be one of the severest epidemics in the history of this country.

A highly infectious disease, ringworm is produced by a fungus type of organism. The fungus spreads outward from the first point of infection, and travels upward along the hair shafts in the diseased regions, the infected hair often appearing to be nibbled off. In the beginning, these areas are about one-fourth of an inch in diameter, but may gradually enlarge and fuse to such an extent as to involve practically the entire scalp. As a rule, however, the disorder is limited to from three to a dozen small coin-sized patches, wholly or partly covered with white, gray or yellowish scales. There is usually no redness and may or may not be other signs of inflammation. Itching in various degrees of severity may be brought on by the disease.

Practically all the cases of ringworm of the scalp are found in children, the disease spreading rapidly by direct contact, or through the use of an infected comb, brush, hat or similar article. Certain types of the infection may also be spread by dogs, cats and other pets. Once having been identified, the disease requires intensive and continued treatment to overcome it.

The Illinois Department of Public Health has made the following recommendations regarding the control of epidemics of ringworm of the scalp:

All school children should receive a careful examination of the scalp. The use of filtered ultraviolet rays (Wood's light), simplifies the examination and increases its accuracy.

Patients with ringworm should be excluded from school, unless special precautionary measures are applied.

Children under treatment should wear a linen skull cap at all times. These caps should be changed at least once a day and boiled for ten minutes after each use.

Barber shops should be informed that infected combs and brushes will spread the infection, and such articles should be washed with soap and water after each use.

Parents should be instructed to wash the child's scalp immediately after each haircut. Ointments prescribed by a physician may be used before the shampoo to provide additional protection.

Pets, particularly kittens, should be inspected under filtered ultraviolet rays, as they may be carriers of ringworm.

Adequate facilities for proper treatment should be provided for each case discovered. — *Illinois Health Messenger*, February 15, 1945, p. 15.

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Child Health,—The past two decades have witnessed an extraordinary reduction in the general mortality among children of elementary school age. Among youngsters 5 to 14 years, insured in the Industrial Department of the Metropolitan Life Insurance Company, the death rate from all causes combined was cut 65 per cent between 1922-1923 and 1942-1943. There has obviously been a great saving of young lives. For every two children who die under current mortality conditions, more than five would have died if the death rate of only two decades ago had continued to prevail. This marked improvement has benefited each color and sex group, although not in equal measure: white children showed a larger reduction than the colored, and girls did better than the boys. The mortality among white girls at ages 5 to 14 is now at the remarkably low point of 0.6 per 1,000.

As regards individual causes, the most spectacular gains have been scored against the principal communicable diseases of childhood, which showed a reduction of no less than 93 per cent in the past 20 years for the children of grade school age. The largest decrease, both absolutely and relatively, was reported for diphtheria, the only disease in this group for which effective means of prevention and treatment have been available for the entire period. At present, the death rate from diphtheria among the insured children of elementary school age is only 1-26th what it was two decades ago; as a result, the disease has been reduced from one of the principal causes of death at these ages, to one of wholly minor importance. Notable progress has also been achieved with regard to the other three diseases in this group, the decreases in mortality during the period amounting to nearly 90 per cent for both whooping cough and measles.

The rapid downward trend in the death rates from tuberculosis and pneumonia has reduced the death rate from these diseases among children by fully three-fourths in 20 years. The decline in the toll from pneumonia at ages 5 to 14, as for all other periods of life, was accelerated following 1937, when chemotherapy began to be used on a wide scale. The efforts to curb appendicitis have likewise been greatly aided by the use of the sulfa drugs in cases complicated with peritonitis. The decrease of 70 per cent in the mortality from appendicitis among these young policyholders reflects also advances in surgical technique and the success of the educational campaign, in which the public has been urged to seek med-

ical care without delay and to avoid the use of laxatives in the case of abdominal pain. Rheumatic fever and organic heart disease, which latter at these ages is very largely due to rheumatic fever, recorded a drop of three-fifths in mortality over the 20-year period. Nevertheless, rheumatic fever now ranks first among the diseases causing death at ages 5 to 14, and, as the aftermath of childhood attacks, it is a leading cause of disability and of death in early and middle adult life.

The death rate from accidents among children of elementary school age has been cut almost in half in the past two decades. This reduction in mortality has yielded a large dividend in lives saved, for accidents were and continue to be the leading cause of death at these ages. Automobile accidents, with a decrease of 52 per cent, made an even more favorable record than accidents as a whole. This is the more remarkable, when it is considered that the death rate from automobile accidents in the total population is currently not very different from what it was 20 years ago. Especially noteworthy also are reductions of more than 70 per cent in the death rate from burns and scalds, the leading class of fatal home injuries among youngsters, and of 50 per cent in the mortality from accidental falls. Safety education has unquestionably contributed its share to the greatly reduced toll from accidents, although the increased modernization of homes and the greater attention given to the care of young children have also played a large role.

There can be no doubt that the efforts to make child life healthier and safer have been eminently successful. Mortality rates at the school ages have fallen to such low levels in recent years that the possibilities of further reduction are limited. Future progress depends largely upon the development of measures to prevent or control rheumatic fever, upon wiping out what remains of tuberculosis at these ages, and upon accident prevention. —Statistical Bulletin, Metropolitan Life Insurance Company, January 1945, p. 9.

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The School Health Council, Massachusetts,—Although formed fairly recently—in 1941 to be exact—the problems in school health administration and in policy which have confronted this group have been many and varied in scope . . . for to this Council, school physicians, nurses, administrators and even private agencies may turn for practical consideration of any of their school health programs. . . . Basically, it is an advisory body to the Commissioners of the State departments of Health and of Education, who work together to establish policies on problems arising in school health. —"Bulletin of the Department of Public Health," January, 1945, pages 2-4.